

# Library of Congress Designing Storage Architectures

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# Agenda

- 1** A Little Background
- 2** Physical Storage Strategy/Challenges
- 3** Digital Storage Strategy/Challenges
- 4** Future Plans
- 5** Questions?

# The Archive



# Physical Storage Challenges

Mitigate further deterioration

Wide range of asset types

Different environmental needs

Special handling requirements (Nitrate)



# Storage Solutions

A disciplined program of storage, preservation and new technologies

Leverage storage options across the globe to utilize the best environment based on the specific media type

Geo-separation to ensure business continuity

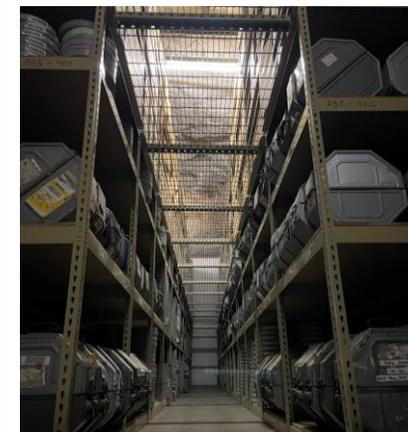
Carefully catalog materials to capture detailed information:

Title metadata

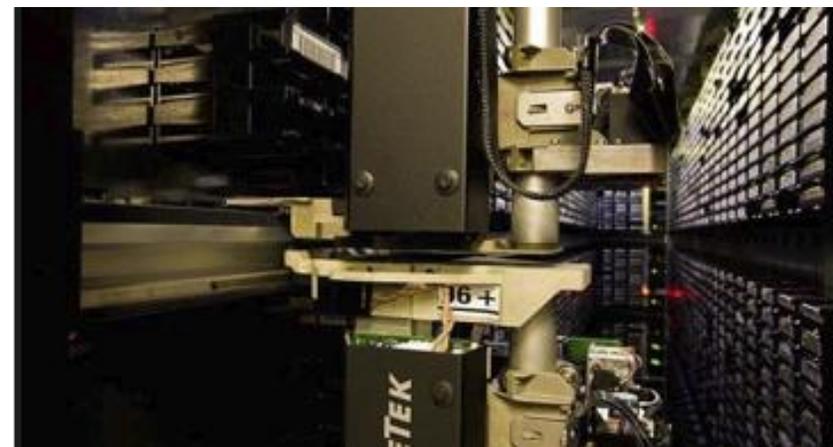
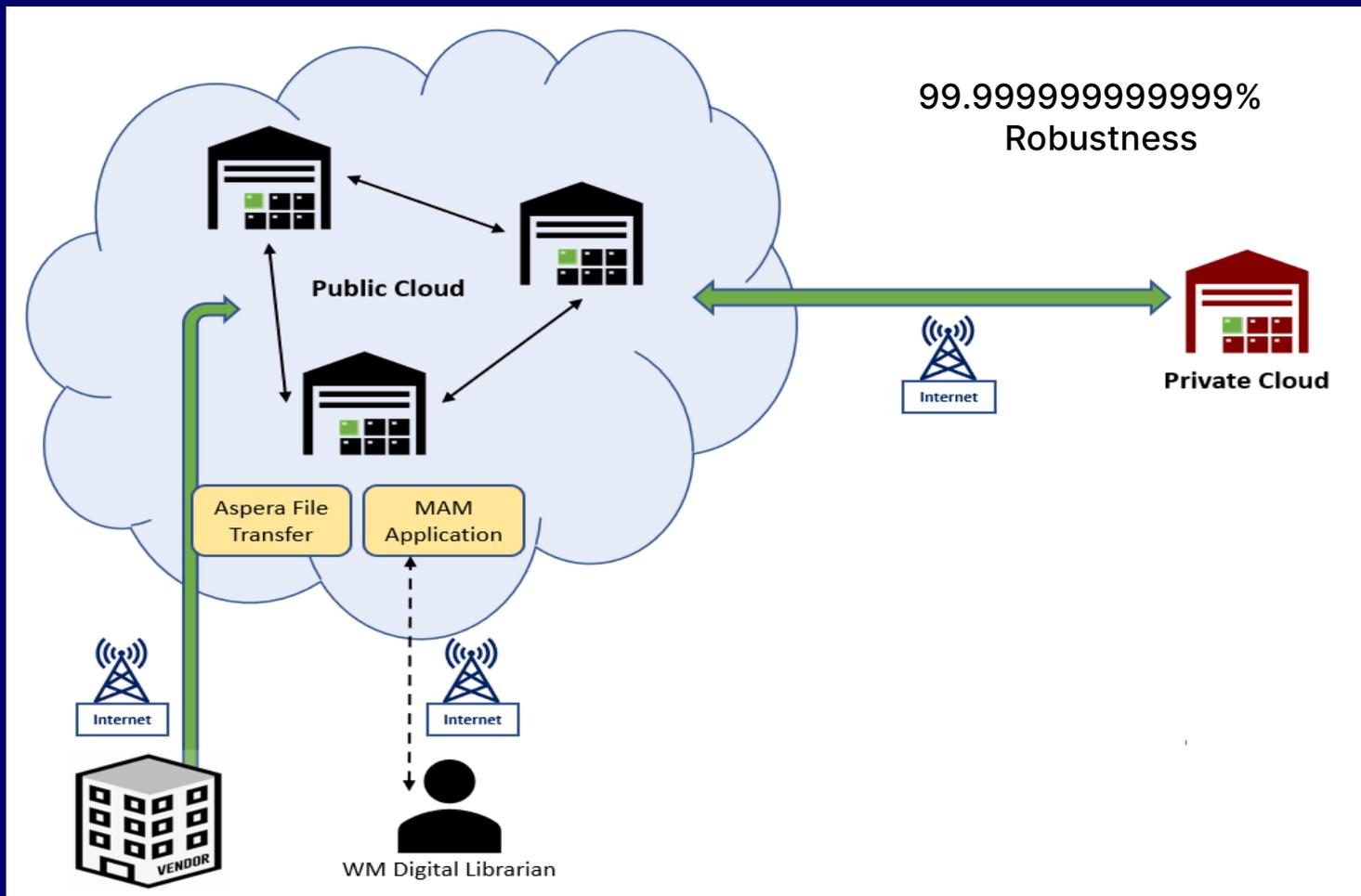
Asset characteristics

Condition

Location



# Digital Solutions



# Challenges

## Digital Dilemmas

Chain of Custody: Provenance of delivery/receipt of digital files

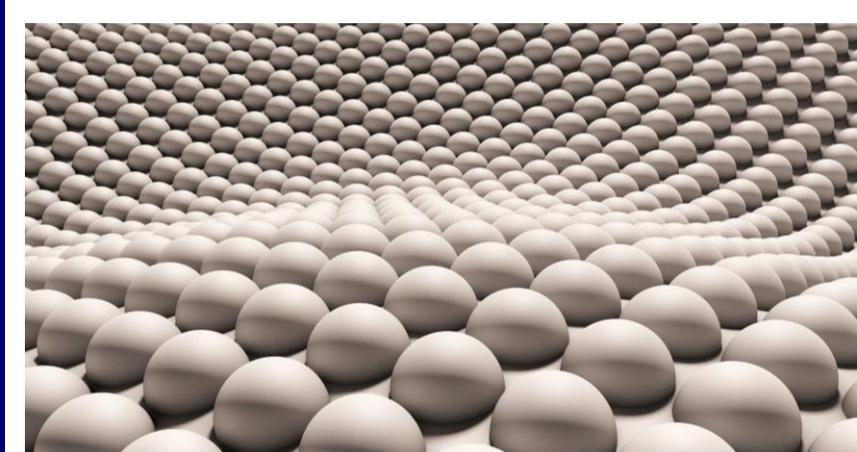
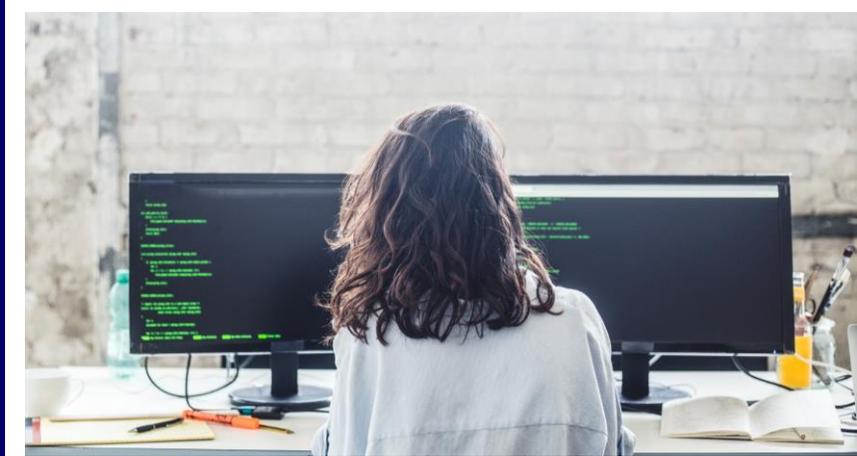
Searchability: Need accurate metadata about what we have and where we have it, just as we do in physical storage

System Dependence: Asset management inventory system and MAM should be interchangeable parts (connected via API's)

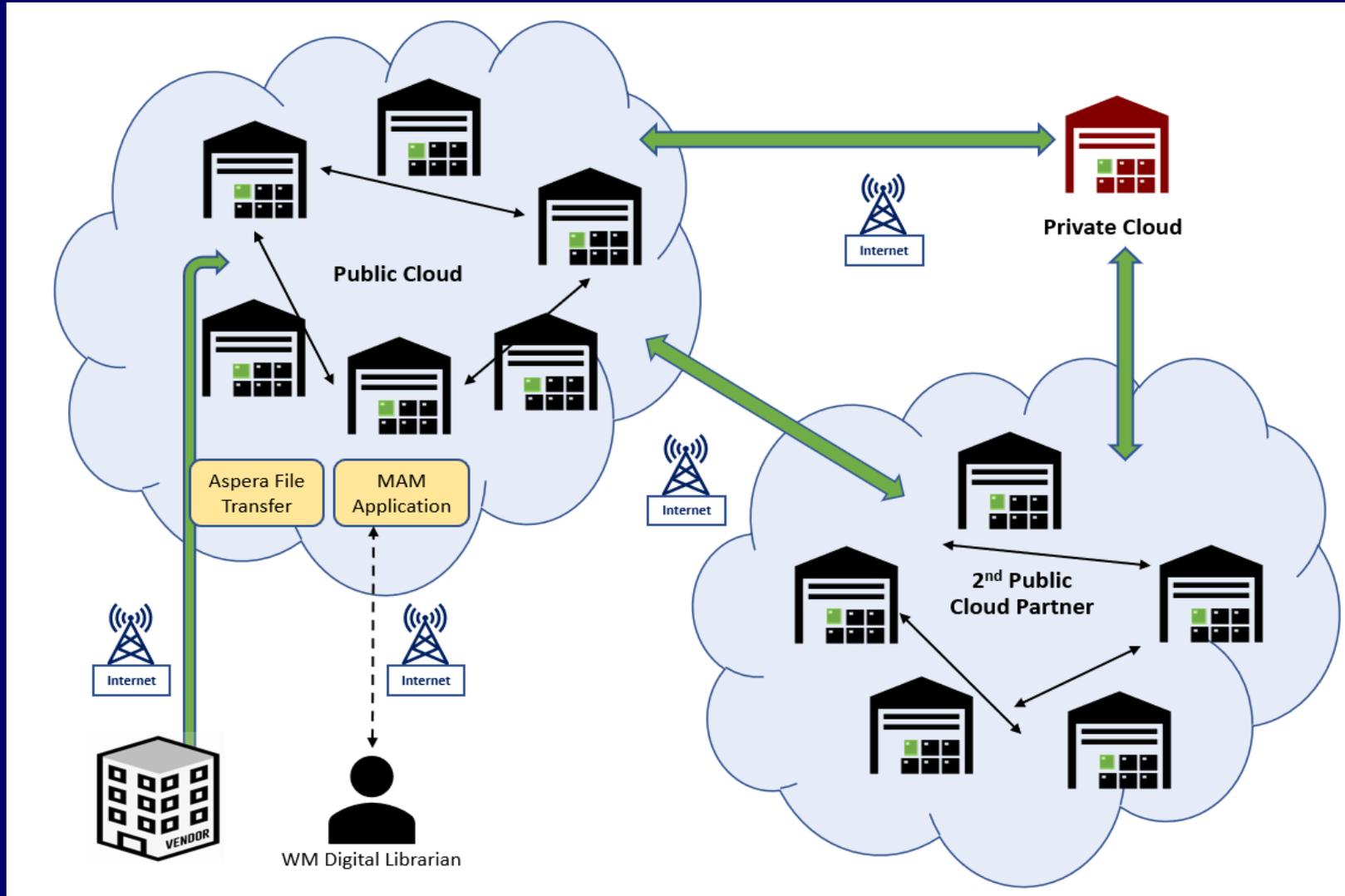
Vendor Lock-in: Single vendor, single point of failure – we can't have our eggs all in one basket – multiple vendors is a good thing.

Exponential Data Storage Needs – Bigger files and more of them

8K file = 16 times bigger than 2K



# Future Goals: Become Multi-Cloud



More Robustness (12 more 9's)

Increased Business Continuity

Improved geo-separation

Mimic the physical world in the digital world

Become multi-cloud, multi-vendor

# Future Goals: Curating the Catalog

## Content Timeline Indexing

What is in the content?

Enhanced metadata searchability

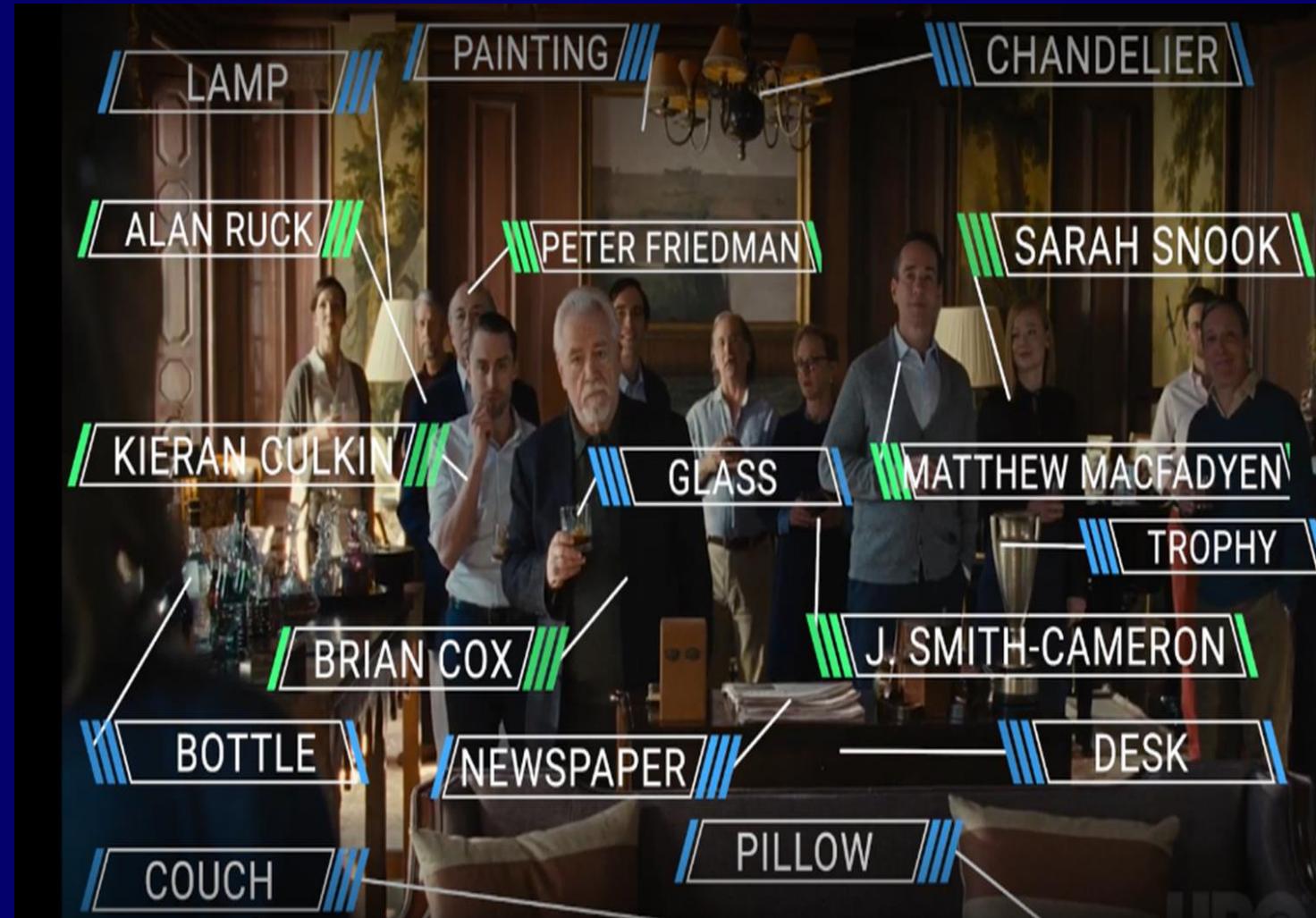
Identify person, place, thing or activity

Enables multitude of future use cases:

Better content search

Marketing opportunities

Targeted advertising



# Future Goals: New Media Format

Still seeking a more robust media format

What are we looking for?

Lower cost of ownership to create, store and retrieve

Non-volatile that does not need ongoing power

Eliminates need for regular human or digital monitoring

Migration cycle equal to or better than film (~100 years)

Speed and capacity to support current data volumes

Mitigation

Media Obsolescence

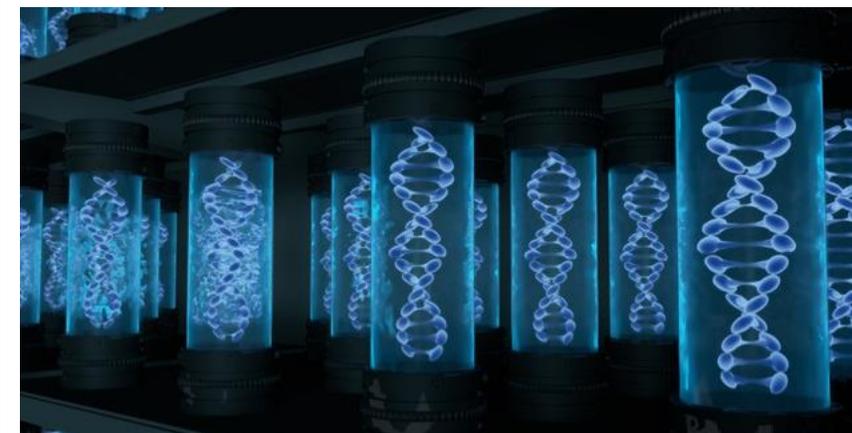
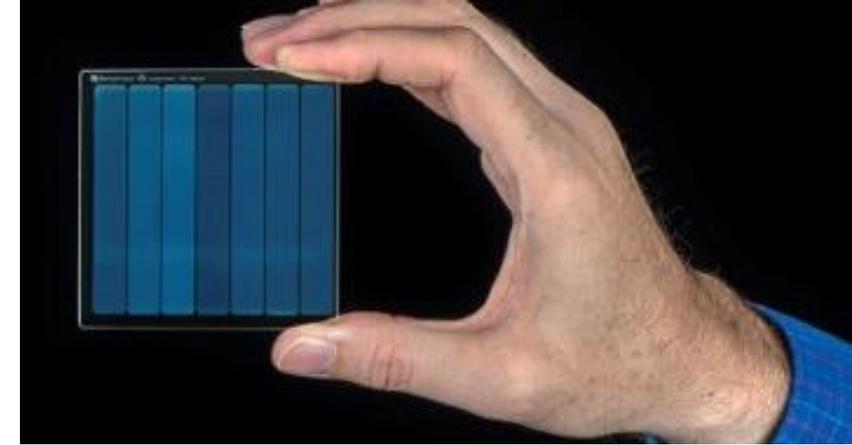
Protection from Electromagnetic pulses

Protection from Bit Rot/Media Failure

Fragility

Water Damage

Temperature



# Questions?